

# **TITLE XIV—MANAGEMENT OF DOE SCIENCE AND TECHNOLOGY PROGRAMS**

## **SEC. 1401. DEFINITIONS.**

In this title:

(1) APPLICABILITY OF DEFINITIONS.—The definitions in section 1203 shall apply.

(2) SINGLE-PURPOSE RESEARCH FACILITY.—The term “single-purpose research facility” means any of the following primarily single purpose entities owned by the Department of Energy—

- (A) Ames Laboratory;
- (B) East Tennessee Technology Park;
- (C) Environmental Measurement Laboratory;
- (D) Fernald Environmental Management Project;
- (E) Fermi National Accelerator Laboratory;
- (F) Kansas City Plant;
- (G) Nevada Test Site;
- (H) New Brunswick Laboratory;
- (I) Pantex Weapons Facility;
- (J) Princeton Plasma Physics Laboratory;

(K) Savannah River Technology Center;

(L) Stanford Linear Accelerator Center;

(M) Thomas Jefferson National Accelerator Facility;

(N) Y-12 facility at Oak Ridge National Laboratory;

(O) Waste Isolation Pilot Plant; or

(P) other similar organization of the Department designated by the Secretary that engages in technology transfer, partnering, or licensing activities.

#### **SEC. 1402. AVAILABILITY OF FUNDS.**

Funds authorized to be appropriated to the Department of Energy under title XII, title XIII, and title XV shall remain available until expended.

#### **SEC. 1403. COST SHARING.**

(a) RESEARCH AND DEVELOPMENT.—For research and development projects funded from appropriations authorized under subtitles A through D of title XII, the Secretary shall require a commitment from non-federal sources of at least 20 percent of the cost of the project. The Secretary may reduce or eliminate the non-Federal requirement under this subsection if the Secretary determines that the research and development is of a basic or fundamental nature.

(b) DEMONSTRATION AND DEPLOYMENT.—For demonstration and technology deployment activities funded from appropriations authorized under subtitles A through D of title XII, the Secretary shall require a commitment from non-federal sources of at least 50 percent of the costs of the project directly and specifically related to any demonstration or technology deployment

activity. The Secretary may reduce or eliminate the non-federal requirement under this subsection if the Secretary determines that the reduction is necessary and appropriate considering the technological risks involved in the project and is necessary to meet one or more goals of this title.

(c) CALCULATION OF AMOUNT.—In calculating the amount of the non-Federal commitment under subsection (a) or (b), the Secretary shall include cash, personnel, services, equipment, and other resources.

#### **SEC. 1404. MERIT REVIEW OF PROPOSALS.**

Awards of funds authorized under title XII, subtitle A of title XIII, and title XV shall be made only after an independent review of the scientific and technical merit of the proposals for such awards has been made by the Department of Energy.

#### **SEC. 1405. EXTERNAL TECHNICAL REVIEW OF DEPARTMENTAL PROGRAMS.**

(a) NATIONAL ENERGY RESEARCH AND DEVELOPMENT ADVISORY BOARDS.— (1) The Secretary shall establish an advisory board to oversee Department research and development programs in each of the following areas—

(A) energy efficiency;

(B) renewable energy;

(C) fossil energy;

(D) nuclear energy; and

(E) climate change technology, with emphasis on integration, collaboration, and other special features of the cross-cutting technologies supported by the Office of Climate Change Technology.

(2) The Secretary may designate an existing advisory board within the Department to fulfill the responsibilities of an advisory board under this subsection, or may enter into appropriate arrangements with the National Academy of Sciences to establish such an advisory board.

(b) UTILIZATION OF EXISTING COMMITTEES.—The Secretary of Energy shall continue to use the scientific program advisory committees chartered under the Federal Advisory Committee Act by the Office of Science to oversee research and development programs under that Office.

(c) MEMBERSHIP.—Each advisory board under this section shall consist of experts drawn from industry, academia, federal laboratories, research institutions, or state, local, or tribal governments, as appropriate.

(d) MEETINGS AND PURPOSES.—Each advisory board under this section shall meet at least semi-annually to review and advise on the progress made by the respective research, development, demonstration, and technology deployment program. The advisory board shall also review the adequacy and relevance of the goals established for each program by Congress and the President, and may otherwise advise on promising future directions in research and development that should be considered by each program.

**SEC. 1406. IMPROVED COORDINATION AND MANAGEMENT OF CIVILIAN  
SCIENCE AND TECHNOLOGY PROGRAMS.**

1 (a) EFFECTIVE TOP-LEVEL COORDINATION OF RESEARCH AND

2 DEVELOPMENT PROGRAMS.— Section 202(b) of the Department of Energy Organization Act  
3 (42 U.S.C. 7132(b)) is amended to read as follows:

4 “(b)(1) There shall be in the Department an Under Secretary for Energy and Science, who  
5 shall be appointed by the President, by and with the advice and consent of the Senate. The Under  
6 Secretary shall be compensated at the rate provided for at level III of the Executive Schedule under  
7 section 5314 of title 5, United States Code.

8 “(2) The Under Secretary for Energy and Science shall be appointed from among persons  
9 who—

10 “(A) have extensive background in scientific or engineering fields; and

11 “(B) are well qualified to manage the civilian research and development programs  
12 of the Department of Energy.

13 “(3) The Under Secretary for Energy and Science shall—

14 “(A) serve as the Science and Technology Advisor to the Secretary;

15 “(B) monitor the Department's research and development programs in order to  
16 advise the Secretary with respect to any undesirable duplication or gaps in such programs;

17 “(C) advise the Secretary with respect to the well-being and management of the  
18 multipurpose laboratories under the jurisdiction of the Department;

19 “(D) advise the Secretary with respect to education and training activities required  
20 for effective short- and long-term basic and applied research activities of the Department;

1           “(E) advise the Secretary with respect to grants and other forms of financial  
2           assistance required for effective short- and long-term basic and applied research activities  
3           of the Department; and

4           “(F) exercise authority and responsibility over Assistant Secretaries carrying out  
5           energy research and development and energy technology functions under sections 203 and  
6           209, as well as other elements of the Department assigned by the Secretary.

7           (b) RECONFIGURATION OF POSITION OF DIRECTOR OF THE OFFICE OF  
8           SCIENCE.— Section 209 of the Department of Energy Organization Act (41 U.S.C. 7139) is  
9           amended to read as follows—

10          “(a) There shall be within the Department an Office of Science, to be headed by an  
11          Assistant Secretary of Science, who shall be appointed by the President, by and with the advice and  
12          consent of the Senate, and who shall be compensated at the rate provided for level IV of the  
13          Executive Schedule under section 5315 of title 5, United States Code.

14          “(b) The Assistant Secretary of Science shall be in addition to the Assistant Secretaries  
15          provided for under section 203 of this Act.

16          “(c) It shall be the duty and responsibility of the Assistant Secretary of Science to carry out  
17          the fundamental science and engineering research functions of the Department, including the  
18          responsibility for policy and management of such research, as well as other functions vested in the  
19          Secretary which he may assign to the Assistant Secretary.”.

20          (c) ADDITIONAL ASSISTANT SECRETARY POSITION TO ENABLE IMPROVED  
21          MANAGEMENT OF NUCLEAR ENERGY ISSUES.—

(1) Section 203(a) of the Department of Energy Organization Act (42 U.S.C. 7133(a)) is amended by striking “There shall be in the Department six Assistant Secretaries” and inserting “Except as provided in section 209, there shall be in the Department seven Assistant Secretaries”.

(2) It is the Sense of the Senate that the leadership for departmental missions in nuclear energy should be at the Assistant Secretary level.

(d) TECHNICAL AND CONFORMING AMENDMENTS.—

(1) Section 202 of the Department of Energy Organization Act (42 U.S.C. 7132) is further amended by adding the following at the end:

“(d) There shall be in the Department an Under Secretary, who shall be appointed by the President, by and with the advice and consent of the Senate, and who shall perform such functions and duties as the Secretary shall prescribe, consistent with this section. The Under Secretary shall be compensated at the rate provided for level III of the Executive Schedule under section 5314 of title 5, United States Code.

“(e) There shall be in the Department a General Counsel, who shall be appointed by the President, by and with the advice and consent of the Senate. The General Counsel shall be compensated at the rate provided for level IV of the Executive Schedule under section 5315 of title 5, United States Code.”.

(2) Section 5314 of title 5, United States Code, is amended by striking “Under Secretaries of Energy (2)” and inserting “Under Secretaries of Energy (3)”.

(3) Section 5315 of title 5, United States Code, is amended by—

(A) striking “Director, Office of Science, Department of Energy.”; and

(B) striking “Assistant Secretaries of Energy (6)” and inserting “Assistant Secretaries of Energy (8)”.

(4) The table of contents for the Department of Energy Organization Act (42 U.S.C. 7101 note) is amended—

(A) by striking “Section 209” and inserting “Sec. 209”;

(B) by striking “213.” and inserting “Sec. 213”;

(C) by striking “214.” and inserting “Sec. 214.”;

(D) by striking “215.” and inserting “Sec. 215.”; and

(E) by striking “216.” and inserting “Sec. 216.”.

**SEC. 1407. IMPROVED COORDINATION OF TECHNOLOGY TRANSFER  
ACTIVITIES.**

(a) TECHNOLOGY TRANSFER COORDINATOR.—The Secretary shall appoint a Technology Transfer Coordinator to perform oversight of and policy development for technology transfer activities at the Department. The Technology Transfer Coordinator shall coordinate the activities of the Technology Partnerships Working Group, and shall oversee the expenditure of funds allocated to the Technology Partnership Working Group.

(b) TECHNOLOGY PARTNERSHIP WORKING GROUP.—The Secretary shall establish a Technology Partnership Working Group, which shall consist of representatives of the National Laboratories and single-purpose research facilities, to—



(1) coordinate technology transfer activities occurring at National Laboratories and single-purpose research facilities;

(2) exchange information about technology transfer practices; and

(3) develop and disseminate to the public and prospective technology partners information about opportunities and procedures for technology transfer with the Department.

**SEC 1408. TECHNOLOGY INFRASTRUCTURE PROGRAM.**

(a) ESTABLISHMENT.—The Secretary shall establish a Technology Infrastructure Program in accordance with this section.

(b) PURPOSE.— The purpose of the Technology Infrastructure Program shall be to improve the ability of National Laboratories or single-purpose research facilities to support departmental missions by—

(1) stimulating the development of technology clusters that can support departmental missions at the National Laboratories or single-purpose research facilities;

(2) improving the ability of National Laboratories or single-purpose research facilities to leverage and benefit from commercial research, technology, products, processes, and services; and

(3) encouraging the exchange of scientific and technological expertise between National Laboratories or single-purpose research facilities and—

(A) institutions of higher education,

(B) technology-related business concerns,

1 (C) nonprofit institutions, and

2 (D) agencies of State, tribal, or local governments,

3 that can support departmental missions at the National Laboratories and single-purpose  
4 research facilities.

5 (c) PROJECTS.— The Secretary shall authorize the Director of each National Laboratory or  
6 facility to implement the Technology Infrastructure Program at such National Laboratory or single-  
7 purpose research facility through projects that meet the requirements of subsections (d) and (e).

8 (d) PROGRAM REQUIREMENTS.— Each project funded under this section shall meet the  
9 following requirements:

10 (1) MINIMUM PARTICIPANTS.— Each project shall at a minimum include—

11 (A) a National Laboratory or single-purpose research facility; and

12 (B) one of the following entities—

13 (i) a business,

14 (ii) an institution of higher education,

15 (iii) a nonprofit institution, or

16 (iv) an agency of a State, local, or tribal government.

17 (2) COST SHARING.—

18 (A) MINIMUM AMOUNT.—Not less than 50 percent of the costs of each  
19 project funded under this section shall be provided from non-Federal sources.

20 (B) QUALIFIED FUNDING AND RESOURCES.—

(i) The calculation of costs paid by the non-Federal sources to a project shall include cash, personnel, services, equipment, and other resources expended on the project.

(ii) Independent research and development expenses of government contractors that qualify for reimbursement under section 31-205-18(e) of the Federal Acquisition Regulations issued pursuant to section 25(c)(1) of the Office of Federal Procurement Policy Act (41 U.S.C. 421(c)(1)) may be credited towards costs paid by non-Federal sources to a project, if the expenses meet the other requirements of this section.

(iii) No funds or other resources expended either before the start of a project under this section or outside the project's scope of work shall be credited toward the costs paid by the non-Federal sources to the project.

(3) COMPETITIVE SELECTION.—All projects in which a party other than the Department, a National Laboratory, or a single-purpose research facility receives funding under this section shall, to the extent practicable, be competitively selected by the National Laboratory or facility using procedures determined to be appropriate by the Secretary.

(4) ACCOUNTING STANDARDS.—Any participant that receives funds under this section, other than a National Laboratory or single-purpose research facility, may use generally accepted accounting principles for maintaining accounts, books, and records relating to the project.

(5) LIMITATIONS.—No Federal funds shall be made available under this section for—

(A) construction; or

(B) any project for more than five years.

(e) SELECTION CRITERIA.—

(1) THRESHOLD FUNDING CRITERIA.—The Secretary shall allocate funds under this section only if the Director of the National Laboratory or single-purpose research facility managing the project determines that the project is likely to improve the ability of the National Laboratory or single-purpose research facility to achieve technical success in meeting departmental missions.

(2) ADDITIONAL CRITERIA.—The Secretary shall require the Director of the National Laboratory or single-purpose research facility managing a project under this section to consider the following criteria in selecting a project to receive Federal funds—

(A) the potential of the project to succeed, based on its technical merit, team members, management approach, resources, and project plan;

(B) the potential of the project to promote the development of a commercially sustainable technology cluster, which will derive most of the demand for its products or services from the private sector, and which will support departmental missions at the participating National Laboratory or single-purpose research facility;

1 (C) the potential of the project to promote the use of commercial research,  
2 technology, products, processes, and services by the participating National  
3 Laboratory or single-purpose research facility to achieve its departmental mission or  
4 the commercial development of technological innovations made at the participating  
5 National Laboratory or single-purpose research facility;

6 (D) the commitment shown by non-Federal organizations to the project,  
7 based primarily on the nature and amount of the financial and other resources they  
8 will risk on the project;

9 (E) the extent to which the project involves a wide variety and number of  
10 institutions of higher education, nonprofit institutions, and technology-related  
11 business concerns that can support the missions of the participating National  
12 Laboratory or single-purpose research facility and that will make substantive  
13 contributions to achieving the goals of the project;

14 (F) the extent of participation in the project by agencies of State, tribal, or  
15 local governments that will make substantive contributions to achieving the goals of  
16 the project;

17 (G) the extent to which the project focuses on promoting the development  
18 of technology-related business concerns that are small business concerns or involves  
19 such small business concerns substantively in the project; and

20 (H) such other criteria as the Secretary determines to be appropriate.

(f) REPORT TO CONGRESS.—Not later than January 1, 2004, the Secretary shall report to Congress on whether the Technology Infrastructure Program should be continued and, if so, how the program should be managed.

(g) DEFINITIONS.—In this section:

(1) TECHNOLOGY CLUSTER.—The term “technology cluster” means a concentration of—

(A) technology-related business concerns;

(B) institutions of higher education; or

(C) other nonprofit institutions,

that reinforce each other’s performance in the areas of technology development through formal or informal relationships.

(2) TECHNOLOGY-RELATED BUSINESS CONCERN.—The term “technology-related business concern” means a for-profit corporation, company, association, firm, partnership, or small business concern that—

(A) conducts scientific or engineering research,

(B) develops new technologies,

(C) manufactures products based on new technologies, or

(D) performs technological services.

(h) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for activities under this section \$10,000,000 for each of fiscal years 2003 and 2004.

1     **SEC. 1409. SMALL BUSINESS ADVOCACY AND ASSISTANCE.**

2             (a) SMALL BUSINESS ADVOCATE.— The Secretary shall require the Director of each  
3     National Laboratory, and may require the Director of a single-purpose research facility, to appoint  
4     a small business advocate to—

5                 (1) increase the participation of small business concerns, including socially and  
6                 economically disadvantaged small business concerns, in procurement, collaborative  
7                 research, technology licensing, and technology transfer activities conducted by the National  
8                 Laboratory or single-purpose research facility;

9                 (2) report to the Director of the National Laboratory or single-purpose research  
10                facility on the actual participation of small business concerns in procurement and  
11                collaborative research along with recommendations, if appropriate, on how to improve  
12                participation;

13                (3) make available to small business concerns training, mentoring, and clear,  
14                up-to-date information on how to participate in the procurement and collaborative research,  
15                including how to submit effective proposals;

16                (4) increase the awareness inside the National Laboratory or single-purpose  
17                research facility of the capabilities and opportunities presented by small business concerns;  
18                and

19                (5) establish guidelines for the program under subsection (b) and report on the  
20                effectiveness of such program to the Director of the National Laboratory or single-purpose  
21                research facility.

(b) ESTABLISHMENT OF SMALL BUSINESS ASSISTANCE PROGRAM.—The

Secretary shall require the Director of each National Laboratory, and may require the director of a single-purpose research facility, to establish a program to provide small business concerns—

(1) assistance directed at making them more effective and efficient subcontractors

or suppliers to the National Laboratory or single-purpose research facility; or

(2) general technical assistance, the cost of which shall not exceed \$10,000 per

instance of assistance, to improve the small business concern's products or services.

(c) USE OF FUNDS.—None of the funds expended under subsection (b) may be used for

direct grants to the small business concerns.

(d) DEFINITIONS.—In this section:

(1) SMALL BUSINESS CONCERN.—The term “small business concern” has the meaning

given such term in section 3 of the Small Business Act (15 U.S.C. 632).

(2) SOCIALLY AND ECONOMICALLY DISADVANTAGED SMALL BUSINESS

CONCERNS.—The term “socially and economically disadvantaged small business concerns” has

the meaning given such term in section 8(a)(4) of the Small Business Act (15 U.S.C. 637(a)(4)).

**SEC. 1410. OTHER TRANSACTIONS.**

(a) IN GENERAL.—Section 646 of the Department of Energy Organization Act (42 U.S.C.

7256) is amended by adding at the end the following:

“(g) OTHER TRANSACTIONS AUTHORITY.— (1) In addition to other authorities

granted to the Secretary to enter into procurement contracts, leases, cooperative agreements, grants,

and other similar arrangements, the Secretary may enter into other transactions with public



1 agencies, private organizations, or persons on such terms as the Secretary may deem appropriate in  
2 furtherance of basic, applied, and advanced research functions now or hereafter vested in the  
3 Secretary. Such other transactions shall not be subject to the provisions of section 9 of the Federal  
4 Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5908).

5 “(2)(A) The Secretary of Energy shall ensure that—

6 “(i) to the maximum extent practicable, no transaction entered into  
7 under paragraph (1) provides for research that duplicates research being  
8 conducted under existing programs carried out by the Department of Energy;  
9 and

10 “(ii) to the extent that the Secretary determines practicable, the funds  
11 provided by the Government under a transaction authorized by paragraph (1)  
12 do not exceed the total amount provided by other parties to the transaction.

13 “(B) A transaction authorized by paragraph (1) may be used for a research  
14 project when the use of a standard contract, grant, or cooperative agreement for such  
15 project is not feasible or appropriate.

16 “(3)(A) The Secretary shall not disclose any trade secret or commercial or financial  
17 information submitted by a non-Federal entity under paragraph (1) that is privileged and  
18 confidential.

19 “(B) The Secretary shall not disclose, for five years after the date the  
20 information is received, any other information submitted by a non-Federal entity  
21 under paragraph (1), including any proposal, proposal abstract, document

supporting a proposal, business plan, or technical information that is privileged and confidential.

“(C) The Secretary may protect from disclosure, for up to five years, any information developed pursuant to a transaction under paragraph (1) that would be protected from disclosure under section 552(b)(4) of title 5, United States Code, if obtained from a person other than a Federal agency.”.

(b) IMPLEMENTATION.— Not later than six months after the date of enactment of this section, the Department shall establish guidelines for the use of other transactions.

**SEC. 1411. MOBILITY OF SCIENTIFIC AND TECHNICAL PERSONNEL.**

Not later than two years after the enactment of this section, the Secretary, acting through the Technology Transfer Coordinator under section 1407, shall determine whether each contractor operating a National Laboratory or single-purpose research facility has policies and procedures that do not create disincentives to the transfer of scientific and technical personnel among the contractor-operated National Laboratories or contractor-operated single-purpose research facilities.

**SEC. 1412. NATIONAL ACADEMY OF SCIENCES REPORT.**

Within 90 days after the date of enactment of this Act, the Secretary shall contract with the National Academy of Sciences to—

(1) conduct a study on the obstacles to accelerating the innovation cycle for energy technology, and

(2) report to the Congress recommendations for shortening the cycle of research, development, and deployment.

**SEC. 1413. REPORT ON TECHNOLOGY READINESS AND BARRIERS TO  
TECHNOLOGY TRANSFER.**

(a) IN GENERAL.— The Secretary, acting through the Technology Partnership Working Group and in consultation with representatives of affected industries, universities, and small business concerns, shall—

(1) assess the readiness for technology transfer of energy technologies developed through projects funded from appropriations authorized under subtitles A through D of title XIV, and

(2) identify barriers to technology transfer and cooperative research and development agreements between the Department or a National Laboratory and a non-federal person; and

(3) make recommendations for administrative or legislative actions needed to reduce or eliminate such barriers.

(b) REPORT. — The Secretary provide a report to Congress and the President on activities carried out under this section not later than one year after the date of enactment of this section, and shall update such report on a biennial basis, taking into account progress toward eliminating barriers to technology transfer identified in previous reports under this section.

**TITLE XV – PERSONNEL AND TRAINING**

**SEC. 1501. WORKFORCE TRENDS AND TRAINEESHIP GRANTS.**

(a) WORKFORCE TRENDS.—